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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/511,328 | 10/15/2004 | Jan Thorsoe | 2923-663 | 6686 |
| 6449 | 7590 | 01/30/2008 | EXAMINER | |
| ROTHWELL, FIGG, ERNST & MANBECK, P.C. | | | BOATENG, ALEXIS ASIEDUA | |
| 1425 K STREET, N.W. SUITE 800 WASHINGTON, DC 20005 | | | ART UNIT | PAPER NUMBER |
| | | | 2838 | |
| NOTIFICATION DATE | | DELIVERY MODE | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTO-PAT-Email@rfem.com

| | | |
|------------------------------|------------------------|---------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/511,328 | THORSOE ET AL. |
| | Examiner | Art Unit |
| | Alexis Boateng | 2838 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 16 November 2007.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 2-10, 12 - 19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 2 - 10, 12 - 19 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some *. c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application
- 6) Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 2, 6 - 9, 10, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Pfeiffer (U.S. 6,051,955).

Regarding claims 16, Pfeiffer discloses wherein a charge control circuit (figure 5 item 110) for a battery pack comprising:

rechargeable battery elements (figure 5 items 12), which are arranged in respective parallel branches of parallel circuit of battery voltage sources (figure 5 items 17), the charge control circuit comprising state monitoring means for monitoring the battery state of elements (figure 5 item 112; column 9 lines 30 - 35), and the charge control circuit comprising switches (figure 5 items 116), which can be controlled by the state monitoring means for interrupting the current flow or releasing the current flow (column 10 lines 45 – 62), characterized in that each parallel branch (figure item 17) has associated state monitoring means and in that respective switch (figure 5 item 116) is provided in each parallel branch (column 5 lines 45 – 62), it being possible for said respective switch (figure 5 item 116) to be controlled on the basis of the battery state (column 9 lines 41 – 63), which is monitored by the state monitoring means (figure 5 item 112), of the

relevant parallel branch in order to selectively block or release only this relevant branch for current flow (column 10 line 45 – 62).

Regarding claim 2, Pfeiffer discloses wherein the state monitoring means of a parallel branch are set to switch the controllable switch to the interrupted state when it detects a battery state “parallel branch fully charged” (column 16 line 64 – column 17 line 22 and claim 27; stop charging the battery when battery is “substantially full”).

Regarding claim 6 – 9, Pfeiffer discloses wherein the charge control circuit characterized in that the state monitoring means comprise measuring devices for detecting the current flowing through the individual parallel branch (figure 5 items 112 and 116; column 11 lines 16 - 24; column 16 lines 28 – 56; column 16 lines 64 column 17 line 22).

Regarding claim 10, Pfeiffer discloses wherein the state monitoring means comprise a respective microprocessor per parallel branch for the purpose of controlling the respective switch (abstract, figure 5 item 112).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 3 rejected under 35 U.S.C. 103(a) as being unpatentable over Pfeiffer (U.S. 6,051,955).

Regarding claim 3, Pfeiffer discloses wherein the parallel branch are formed from identical groups of series-connected battery elements which are connected in series with respective controlled switch (figure 5 items 110 (parallel branch), item 12, item 116). Pfeiffer discloses the invention as claimed, but does not disclose wherein identical groups of series-connected battery are formed. It would have been obvious to a person of ordinary skill in the art to modify the Pfeiffer system with a groups of series connected battery so that the system can charge a wide array of batteries. Since it has been held that mere duplication of essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

5. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pfeiffer (U.S. 6,051,955) in view of Fiebig (U.S. 5,539,297).

Regarding claim 4, Pfeiffer does not disclose the invention as claimed. Fiebig discloses in figure 1 item 2 and in column 3 lines 55 – column 4 lines 15 wherein the temperature is monitored by a temperature sensor within the microcontroller. At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the Pfeiffer system with the Rahman system so that the battery's temperature is monitored and protected from overheating.

Regarding claims 5, Pfeiffer does not disclose the invention as claimed. Fiebig discloses in column 2 lines 16 – 30 and column 3 lines 33 – 50 wherein switches,

are used to control the circuitry in reference to the temperature. At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the Pfeiffer system with the Fiebig system so that the battery's temperature is monitored and protected from overheating and overcharging.

6. Claims 12 – 15, 17 – 19 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Pfeiffer (U.S. 6,051,955) in view of Kitagawa (U.S. 6,204,633).

Regarding claims 14, 15, 17, 18, and 19 Pfeifer discloses the invention as claimed. wherein a charge control circuit (figure 5 item 110) for a battery pack comprising:

rechargeable battery elements (figure 5 items 12), which are arranged in respective parallel branches of parallel circuit of battery voltage sources (figure 5 items 17), the charge control circuit comprising state monitoring means for monitoring the battery state of elements (figure 5 item 112; column 9 lines 30 – 35), and the charge control circuit comprising switches (figure 5 items 116), which can be controlled by the state monitoring means for interrupting the current flow or releasing the current flow (column 10 lines 45 – 62), characterized in that each parallel branch (figure item 17) has associated state monitoring means and in that respective switch (figure 5 item 116) is provided in each parallel branch (column 5 lines 45 – 62), it being possible for said respective switch (figure 5 item 116) to be controlled on the basis of the battery state (column 9 lines 41 – 63), which is monitored by the state monitoring means (figure 5 item 112), of the relevant parallel branch in order to selectively block or release only this relevant

branch for current flow (column 10 line 45 – 62). Pfeiffer does not disclose wherein switch switches from a high resistance state to a low resistance state, but does disclose in column 8 lines 60 - 67 wherein switch switches to other different valued resistances, which may or may not be high to low. Pfeiffer does not disclose wherein a discharge control circuit is used in place of the charge control circuit. Kitagawa discloses in figure 3 wherein item 13 is a charge/discharge control circuit to control the discharging function of the batteries. At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the Pfeiffer system with the Kitagawa system so that the system may be used to drive a load.

Regarding claim 12, Pfeiffer discloses wherein the controllable switches are transistors in particular field-effect transistors (figure 5 item 116).

Regarding claim 13, Pfeiffer discloses wherein the state monitoring means comprise at least one microprocessor preferably at least in each case one microprocessor for each parallel branch (figure 5 item 112).

Response to Arguments

7. Applicant's arguments with respect to claims 2 – 10, and 12 - 19 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexis Boateng whose telephone number is (571) 272-5979. The examiner can normally be reached on 8:30 am - 6:00 pm, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ullah Akm can be reached on (571) 272-2361. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AB



BAO Q. VU
PRIMARY EXAMINER